

II.—*Notes on the Birds of North-East Chihli, in North China.* Part III.* By J. D. D. LA TOUCHE, C.M.Z.S., M.B.O.U.

182. *Columba livia intermedia* (Strickl.).

Columba intermedia D. & O. p. 384.

I shot a Pigeon out of a flock of *C. rupestris* on 21 May, 1911. It was without any white on the tail or rump, and was probably an Indian Blue Rock-Pigeon.

183. *Columba rupestris* Pall.

Columba rupestris D. & O. p. 385.

The Bar-tailed Rock-Pigeon is a common resident in the mountains near Chinwangtao, and probably all over north-east Chihli.

This Pigeon was common in the mountains of the Liautung Peninsula in February, 1890.

184. *Turtur risorius* (L.).

Turtur risorius D. & O. p. 387.

The Indian Ring-Dove is a very common resident a few miles inland of the port, frequenting the large trees round about the country houses and villages and the willow, poplar, and pine groves on the plains. A winged bird obtained in the spring of 1911 soon became very tame, and after keeping it for seven years, I gave it to a friend in Shanghai with my other birds.

185. *Turtur orientalis* Lath.

Turtur rupicola D. & O. p. 385.

Turtur orientalis La T. p. 578.

The Eastern Turtle-Dove is a very common migrant in north-east Chihli and appears to nest in this district. It passes Chinwangtao from the end of March to well on into June and throughout September until at least the 15th of October and probably later.

* For Parts I. and II. *vide* Ibis, 1920, pp. 629-671, and pp. 880-920.

Two young birds were brought to me from the mountains on the 16th of July, 1917. They were still in the first nestling plumage and were unable to feed by themselves. The head, neck, wing-coverts, and mantle were of a rich deep brown, the feathers of the wing-coverts and mantle being edged with chestnut; the back was slate coloured and the breast chestnut-brown. The bill was of a very dark brownish horn. They retained this plumage until about September, when they changed gradually into adult plumage. They were fed without difficulty by hand with crushed kaoliang and small millet moistened with warm water, and remained very tame until they could feed by themselves, after which they would not allow one to handle them so freely. One of these birds developed an abnormal liking for raw beef, and I had to hide carefully the minced beef prepared for the other birds, as this dove would pounce on it and devour it all up. Sometimes, if it saw me distributing this food, it would fly down to snatch it from my hands. It would pursue the Cuckoo to get his meat from him. The other young dove was almost equally fond of bread and milk, and both birds would eagerly devour this when I gave them any. The meat appeared to disagree with the dove, and I prevented it from eating this as much as possible. On my leaving Chinwangtao I gave them liberty and had at first some difficulty in getting them to go out. The native who sold me these birds told me that one of the villagers had one which he had reared at liberty and which remained perfectly tame.

The Eastern Turtle-Dove is very common in southern Manchuria and breeds at Newchwang.

186. *Syrrhaptes paradoxus* (Pall.).

Syrrhaptes paradoxus D. & O. p. 389.

Pallas's Sand-Grouse is of very irregular occurrence at Chinwangtao. In the very cold year of 1905, I believe, it was seen in great numbers, but since then it does not appear to have occurred until the autumn of 1912. That year, on the 10th of November, I met several flocks flying very swiftly towards the northeast. They flew low as a rule,

twittering continuously. Some packs kept wheeling round, but none settled that day. During that month a great number appeared to have passed, some from west to east, others in an opposite direction. They probably came from the interior via the Chihli Plain. Many flocks must have settled on the plain in this vicinity and farther north, as the market during the winter was stocked with both live and dead birds. The former were kept in baskets like chickens or quail and seemed quite tame. They were fed on kaoliang (sorghum). I saw birds flying also during December, but all passed at a considerable distance, and I had to fall back on the market for specimens. The immigration must have ceased early in the winter as no fresh specimens were to be seen in the market after December or maybe January, and the birds must have returned inland during the latter month. After this, I did not see any more, neither were any exposed for sale in the Chinwangtao market. I was much astonished to hear from Mr. A. L. Hall, to whom I am indebted for much information and for specimens from the extreme north of the province, that this Sand-Grouse is unknown in the Chihfeng district. Mr. C. B. Rickett wrote to me in the spring of 1913 that great numbers of Sand-Grouse were imported that season into England from Russia, so that 1912-13 must have been a great Sand-Grouse year.

Pallas's Sand-Grouse is also of irregular occurrence at Newchwang and is occasionally very abundant there. During the winter 1889-90 I saw but one flock and none were brought to market.

187. *Phasianus colchicus karpowi* Buturlin.

Phasianus torquatus, var. *a*, D. & O. p. 409.

The North China Ring-necked Pheasant is very abundant in the mountainous country north of Chinwangtao, but does not occur commonly within twelve miles of the port. From the beginning of November to the beginning of March the market is stocked with these pheasants brought down from localities twenty to sixty miles distant from the coast.

The characteristic features of the North China Pheasant

are said to be a wide and complete white collar and dark flanks, to which Père David adds a white spot, often present, below the ear. The examination of, I may say, hundreds of these pheasants, during seven winters at Chinwangtao, has convinced me that, whereas the more or less broad white collar is a constant feature, the depth of colouring of the flanks, as also the development of the eyebrow, the green of the lower back and rump, and the ear-spot are variable features. The last-mentioned character may be put aside as of no distinctive value; some birds have it, others not. A few birds obtained in the market have the white on the neck so extended that the base of all the green feathers from the ring to the ear is white. The width of the ring is also extremely variable and the hinder part of it is often very narrow, the feathers being edged with black or green. Some birds procured in the market have the flanks and the base of the hind neck of a very rich and dark orange colour, and these have also generally the ridge of the back and rump of a deep olive colour with a bright emerald sheen. Very occasionally one comes across a specimen which is no darker than Lower Yangtse birds. Again, the edging of the copper-red breast-feathers is variable and cannot be taken into consideration; some birds have this edging broad and complete, others have but a mere apical speck. On the other hand, the scapulars show very little variation, such as is not uncommon in Lower Yangtse birds.

Several examples, shot at twenty to twenty-five miles north of the port, may be specially mentioned. These have all dark flanks and the green on the back and rump is brilliant; but one bird (not purchased), which was evidently a bird of the year, had very little green on the back. The eyebrow is very white and broad in three examples, dull or of medium development in six others. The ear-spot is present in five and absent in four. The width of the white ring varies: in front from about 2 in. to 1 in.; on the sides from $1\frac{1}{4}$ in. to 2 in.; behind, from about half an inch to 0.20 in.

In comparing the north-east Chihli Pheasant with the Lower Yangtse Pheasant, there is only one constant feature

by which the two birds may be always distinguished from one another, and that is the colouring of the sides of the neck above the white ring. In *P. torquatus* this is violet, except just next to the ring; in the north-east Chihli bird it is green.

The Pheasant of north-east Chihli may therefore be characterized as follows:—

1. Eyebrow more or less broad.
2. Sides of the neck above the white ring shot with green.
3. White ring, *generally* broad and *always complete*.
4. Flanks and base of hind neck more or less deep orange.
5. Ridge of back and rump olive with a more or less brilliant emerald-green sheen.

Of the above characters, only Nos. 2 and 3 are *absolutely* constant.

Among the series of Ring-necked Pheasants procured here, three may be specially mentioned. One, apparently hermaphrodite, purchased in the market on the 23rd of January, 1916; and a female, also obtained in the local market, which has the black markings of the upper parts replaced by a delicate lavender-grey. The former bird has the general colouring of the male *P. karpowi*, the coppery-red upper breast-feathers are not edged with black, having only a black apical speck, the webs on either side of this have a straw-coloured spot at their extremity. The flank-spots are very small, the white collar has just below it on the hind neck a broad edge of coppery chestnut and is edged with straw-colour in front. The wing-coverts are marked with chestnut. The colouring of the back resembles neither that of the male nor that of the female: the feathers are black in the centre with a brownish-buff spot towards the base, the shaft of the same light colouring, the rest of the feathers is chestnut waved with black and with a broad border of dull olive-grey. The rump feathers are dark brown, barred with brownish buff and with a metallic green apical fringe. The upper tail-coverts are buffish grey with broad oval-shaped bars encircled with chestnut. The tail (central rectrices missing) is of the usual golden olive with

violet fringes and has rather narrow bars. The bird weighed only $1\frac{3}{4}$ lb., but was in good condition. Dissection showed one testis and what looks like a diseased ovary. The parts have been preserved in spirit. Culmen 0.90 in., wing 8.60 in.; tarsus 2.85 in. There are no spurs.

The third bird, which was sent to me by my collector after I had left Chinwangtao, is labelled a male, but it is of the size of a female, without spurs. There are traces of female plumage on the head and upper parts and the deep yellow flank-feathers are plain.

188. *Phasianus colchicus pallasi* Rothschild.

An example from Chihfeng in north Chihli, a locality adjoining the Gobi desert and about 190 miles as the crow flies north of Chinwangtao, has pale buffish-red scapulars, the back very blue-grey, the collar moderately broad, a white ear-spot, the central and the next two pairs of rectrices with a small terminal white spot, and the tail much washed with grey. Two other examples from the same place, however, are much the same as Chinwangtao birds except that they have the eyebrow much more developed. A female is much paler than that of *P. karpovi*. The Chihfeng country is probably on the southern limit of *P. c. pallasi*. I am much indebted for these specimens to Mr. A. L. Hall, who kindly sent me some by post and brought down others himself.

189. *Pucrasia xanthospila* Gray.

Pucrasia xanthospila D. & O. p. 407, pl. 104.

The North China Pueras Pheasant is occasionally found in the Shanhaikuan and Chinwangtao markets. I have seen one or two males nearly every winter in the latter market and two females; one of the females was said to have been brought from a locality which is about sixty miles to the north of Chinwangtao. This Pheasant apparently is not found in the near vicinity of Chinwangtao, but only in the wooded country at least thirty miles north of the port.

Reeves's Pheasant (*Syrnaticus reevesii*) occurs in the mountains surrounding the Imperial Tombs (Tung Ling)

and in the north-western parts of the province. Swinhoe's Eared Pheasant (*Crossoptilon manchuricum*) is also supposed to occur in the Tung Ling and appears to be not uncommon in the province of Shansi. Neither of these pheasants is known in the mountains of this district.

190. *Coturnix coturnix* (L.).

Coturnix communis D. & O. p. 346 (part); La T. p. 579.

The Common Quail passes Ch'ingwangtao in March and April, and is very abundant during October and in the early part of November. Some remain all the winter.

191. *Coturnix coturnix japonica* T. & S.

Coturnix communis D. & O. p. 346 (part).

Coturnix japonica La T. p. 579.

The Japanese Quail is usually very abundant towards the middle of May and some are to be found until the beginning of June. It is again met with in August and September and most probably breeds here. A live male example, brought from Chihfeng in north Chihli by Mr. A. L. Hall in October, had the characteristic red sides of head and throat. This colour disappeared during the winter leaving the bird with a streaked face and throat. Owing probably to unfavourable food conditions, the red colouring was not fully assumed until July following, and on the 14th of June the sides of the head and throat had still a good deal of white. The red of the head and throat was again lost in the autumn: the cheeks and throat became streaked with pale red, a reddish-brown streak and a malar stripe of the same colour remaining.

192. *Caccabis chukar pubescens* Swinhoe.

Caccabis chukar D. & O. p. 395.

The Chukor is common in the mountainous parts of north-eastern Chihli. Four eggs, taken in the Shanhaikuan Mountains on the 4th of May, 1915, were brought to me together with the hen bird. These eggs are highly glossy, buff, speckled with dull pinkish red. One egg is thickly speckled all over and has a slight cap, and large pink-red spots on the

apex. The others are very sparsely marked. They measure 1.52×1.21 , 1.58×1.20 , 1.60×1.22 , and 1.66×1.20 in. The man who brought me these eggs said that sometimes as many as twenty eggs were found in one nest.

193. *Perdix daurica* Pall.

Perdix barbata D. & O. p. 392.

The Mongolian or Bearded Partridge is very common on the hills of north-eastern Chihli. It occurs also in good numbers on the hills, near Chinwangtao, and the market is fairly well supplied with them during the season.

I found this Partridge common in February 1890 in the mountains of the Liautung Peninsula.

194. *Turnix blanfordi* Blyth.

Turnix maculatus D. & O. p. 398.

Turnix blanfordi La T. p. 579.

Blanford's Button Quail is a very common migrant in north-east Chihli. It passes Chinwangtao from about the middle of May to about the 7th of June, and from the last week in August to well on into October. I have no doubt that it breeds here. A live female example given to me by Mr. A. L. Hall in October 1915 constantly uttered a cry which might be syllabled as "krek." During March it began to utter what is presumably the breeding call. The bird began by making a low sound which exactly resembled the deep, but very distant hoot of a steamer's whistle. After this there was a short pause, then another low hoot with the same ventriloquistic effect, but a little louder, after which another pause, and the same sound was uttered again; after the fifth call or so it developed into a weird moan. The calls were repeated at short intervals, the three or four last being heartrending, very humanlike moans; these increased in intensity, and were altogether about eight or nine in number; the bird as it made these sounds bowed its head and slightly depressed its wings. The calling of this bird became very frequent during the first half of May, and on the 14th, noticing that it was calling more than usual, I went to find out what was the matter, and I

found the bird crouching in a corner of the cage as if it wanted to lay or incubate. I thereupon put a quantity of dry grass into the cage, which the Quail took immediate possession of, hollowing out a depression and taking the grass and throwing it over its back so as to form a dome to the nest. Next day the Hemipode appeared to have given up the idea of laying, but on the 16th I discovered hidden among the grass a miniature egg, apparently laid the previous day, as that same day at noon I found a second egg, this one about one-third the usual size, also hidden away among the grass. None was laid on the 17th, but on the 18th I found a third egg, resembling the second one in size. No others were laid, and the calling became less frequent and intense. I was unfortunately unable to procure a male. The Hemipode, on being shown a skin of one of its own species, became greatly excited, puffed out its feathers, bowed and "kreked" as if pleased. On the 31st of the month, I happened to pick up another female, slightly wounded in the wing, which, when healed, I placed in the cage, together with the other *Turnix* and two male *Coturnix japonica*. The *Turnix*, beyond giving the newcomer a gentle peck now and then during the first day, did not attempt to molest it, and the four birds lived in harmony until the 16th of July, when one of the Japanese Quail, a young bird of the previous year, was found killed (by the other male probably). The new *Turnix* showed signs of wanting to lay soon after it had been placed with the others, and on the 21st of June I found three eggs laid by it. On the 22nd, 26th, 27th and 28th, four more eggs were found, presumably laid by the same bird. On the 6th of July I found another. All these were very small eggs, much under half size; but on the 17th, a much larger egg, about half size, was found, and on the 20th and 21st two more miniature eggs. On the 23rd of July I had to take the new *Turnix* out of the cage as it was badly pecked about the head, evidently by the old bird. When the Japanese Quail remained alone with the latter, it made violent love to it and attempted to pair, but without any encouragement from

the Hemipode, which invariably tried to escape from it. The following year only one egg was laid by the new Quail. The other bird had unfortunately been attacked by a rat and was so injured that I had to chloroform it. This bird at the time of its death had assumed an extraordinary melanistic plumage, probably due to insufficient insect-food. I fed these Quail on kaoliang and small millet, and gave them besides bread and milk and insects when in season.

195. *Rallus indicus* Blyth.

Rallus indicus D. & O. p. 489.

I have an adult male of the Indian Rail which was brought down to me alive from Chihfeng in northern Chihli by Mr. A. L. Hall, who had obtained it at the beginning of May. I shot an immature bird in the crops here on the 21st of September and a half-grown bird on the 28th of September, so that this Rail evidently breeds here. The soft parts of the adult male are : iris orange-red, culmen brownish, the edge of the upper mandible and lower mandible orange-vermilion, legs rosy grey.

I shot out of a ditch on the plains near Newchwang in southern Manchuria on the 26th of May, 1889, an example of *Amaurornis paykulli* (Ljungh).

196. *Porzana pusilla* (Pall.).

Porzana pygmaea D. & O. p. 487.

Porzana pusilla La T. p. 579.

Pallas's Crake passes during the latter half of May to the beginning of June, and is met with again in wet fields and marshes from the beginning of August to the last week in October. It is extremely abundant during the autumn passage. It is said by David to summer near Peking, and probably also breeds near Chinwangtao.

I saw this Crake in summer near Newchwang.

197. *Gallinula chloropus parvifrons* Blyth.

Gallinula chloropus D. & O. p. 485.

The Indian Common Moorhen summers in the marshes. I have three eggs taken at the end of June.

198. *Gallixrex cinerea* (Gm.).

Gallixrex cinerea D. & O. p. 484; La T. p. 579.

A single male example was taken by my local collector at Shanhaikuan in April 1913. I believe that I saw one on the 27th of August, 1912. This is probably the northernmost breeding-limit of the Water-Cock.

199. *Fulica atra* L.

Fulica atra D. & O. p. 489; La T. p. 579.

Coots are extremely abundant in the marshes during most years in September and October. They are uncommon in spring.

The Coot is a common migrant at Newchwang.

200. *Grus grus lilfordi* Sharpe.

Grus cinerea D. & O. p. 434.

Grus sp. (part), La T. p. 579.

I have examples of the Eastern Grey Crane, shot in the vicinity of Chinwangtao in December and January. A few of these winter here. Immense flocks of Cranes pass over Chinwangtao in spring during March and early in April, and again in October. These are mainly, I believe, composed of birds of this species. As a rule, they fly so high that it is not easy to identify them except by the call. On the 12th of October, 1915, I counted some 28 flocks passing from 4.30 p.m. to dark—there were from 40 to 70 birds in each flock. At 8 p.m. they were still passing. Thousands must have gone over that day.

201. *Grus leucauchen* Temminck.

Grus vipio D. & O. p. 435.

I have a handsome adult male obtained at Chinwangtao on 10 October, 1918—wing $22\frac{1}{2}$ in., culmen 5.8 in., tarsus 9.5 in. Legs crimson-lake; bill (dried) dull greyish. The under tail-coverts are grey.

202. *Grus japonensis* Müller.

Grus viridirostris D. & O. p. 435.

An adult example of the Manchurian Crane was hawked round in November 1916. It had been shot

near Shanhaikuan. I believe that examples of this Crane are occasionally obtained in the neighbourhood, but during six years' residence at Chiuwangtao, I know of two only having been captured. Among the flocks of Crane which pass over I have seen white Cranes with black wings which were either of this or the next species. The following dates may be particularly mentioned: 12 October, 2 November, 1913, 30 March, 1915. The birds seen on this last-mentioned date are noted in my diary as follows:—
 "At 3.15 p.m. two very large flocks of Cranes flew over accompanied by a couple of small parties: some were white with black primaries so far as I could make out, others were grey birds. All were flying together, a patch of white birds and then a lot of grey ones. The effect of the variegated V's was very curious. There must have been 200 of the birds." These white Cranes have a rather shrill call: "coo-kee."

203. *Grus leucogeranus* Pall.

Grus leucogeranus D. & O. p. 436.

I have an example of the Great White Crane, shot at Hsieh Chia Ying in the spring of 1915. With the exception of the bastard wing and primaries which are black, the bird is entirely white. The colouring of the soft parts in the dried skin are:—bill dull livid purple, apical part pale horn; skin of crown and face dusky reddish yellow; legs dull reddish pink. The bill is serrated at its extremity for about 2.20 in. *Measurements*:—Culmen 7.20, wing 24.00, tail 8.20, tarsus 9.50 inches.

204. *Otis dybowskii* Tacz.

Otis tarda D. & O. p. 421.

Otis dybowskii La T. p. 579.

The Eastern Great Bustard passes Chiuwangtao from early in March to the end of April or beginning of May. On the 10th of May, 1916, two of these birds flew over the port, but these were doubtless belated travellers. In autumn, from October until about the 10th of November is the time of

passage. These birds probably begin to pass in September or possibly at the end of August, but I have no positive records. As the kaoliang (sorghum) is not down much before the beginning of October—and the birds, as a rule, fly very low,—observations at that season are difficult until the plain is more or less cleared of the high crops. My predecessor at this port once shot eight in the course of an afternoon at the beginning of October, out of a large number which flew over the port that day. These Bustards fly in flocks which occasionally contain from 40 to 50 birds; but, as a rule, 10 to 20 individuals is the usual number. Very wary, they seldom alight while migrating, except in the vicinity of decoys and in very open places. After the middle of November and during winter, the Great Bustard may be found on the bare high ground inland and on the plains. The natives shoot the Eastern Great Bustard on passage, by means of decoys, both in spring and in autumn after the crops have been cut*. Large circular pits are dug on the plain in the line of flight of the Bustards. These are furnished with a flat roof of kaoliang stalks, the roof being a very few inches above the level of the ground. The edge of the roof is hung with grass so as to conceal the interior. A few paces from the pit, Bustard skins stuffed so as to represent the birds in an expectant attitude are planted all round. These Bustard skins have the orbits stuffed with cotton painted black, the legs are cut off and replaced by a stout stick, the tail is spread in the characteristic manner, and the skins, in which the wing-quills have been pulled out, are stuffed in such a way as to show a great deal of white on the flanks, the wings being tightly bound to the body. The professional shooting-men come daily to these decoys during the times of passage and remain there throughout the day. On the approach of the Bustards they conceal themselves in the pits. The Bustards, on sighting the decoy, generally fly straight to it and after wheeling round once

* Since the above was written, I have been informed by my collector that the birds are also taken with nets.

or twice settle in its vicinity—as a rule, within easy range of the men's guns. The guns used are single-barrelled, and as the occupants of the pit are two in number one or two birds remain as the result of a successful shot. These are instantly deprived of the flight, and sometimes even of the tail-feathers, which are made up into bundles for sale to feather merchants, and the mutilated body is sent to market. The Chinwangtao market is stocked with Bustards in spring and autumn, and in winter many birds are brought from inland. The price varies according to size from \$0.50 to \$1.00, the latter price being asked for birds which have perfect wings and tail; otherwise a large mutilated bird may be had for a couple of dollars. Young birds are not bad eating, but old males are very rank in flavour.

The Eastern Great Bustard takes at least three or perhaps four years to develop to its full size and plumage. Young males of the year have the head, neck, and breast of a somewhat darkish grey, the primaries are spotted at their extremity, the side-rectrices are double-barred, and the weight varies from 6 to 10 lbs. In the following spring a short beard is assumed, but no other change takes place beyond the moulting of the primaries and secondaries. In the second spring (third year of the bird) the bird has a clear grey crown with an inconspicuous central dark stripe, a fair-sized beard, the neck and breast remain as in autumn (clear pale grey with a trace of lengthening and disintegrating of the fore-neck feathers). The wing-coverts have some of the immature markings, but the outer rectrices have the single subterminal black bar of the adult plumage. The male evidently assumes in the second autumn the clearer grey head, neck, and breast of the adult bird.

The male when three or more years old has in spring the head, nape, and upper hind-neck of a very pale grey; the dark coronal stripe has almost disappeared; the chin, throat, and upper lower neck are white, tinged with buff on the neck. The beard is four or more inches long, and the feathers of the fore-neck are disintegrated and almost as

long as the beard, and grade into chestnut at the base of the lower fore-neck. The breast has become chestnut by the moulting of the feathers, which are now lanceolate, slightly disintegrated, and of considerable length. The lesser wing-coverts are pure pale grey, spotted with white. The wing measures from $23\frac{1}{2}$ to $24\frac{1}{2}$ inches.

The adult bird in autumn and winter has the throat whitish, the head, fore-neck, and breast of a clear light grey, the feathers of the breast being rounded, with occasionally a few dashes of chestnut. There is a well-developed narrow crest which in spring is almost as light-coloured as the rest of the head.

The female plumage undergoes apparently much the same development as the male with regard to the wing-quills and rectrices. The breast has in spring a slight admixture of tawny chestnut.

The foregoing description of the male in spring plumage is taken from four males shot in spring at Chinwangtao or Shanhaikuan:—one adult in full breeding dress, one adult moulting into the full breeding dress, a male in its third year, and a young male of the previous year. Besides these, I have seen another adult spring male and, on the 4th of February, 1912, in the market, an adult male with disintegrated neck-feathers and a quantity of fulvous on the sides of the lower neck, so that probably the breeding plumage is assumed very early in the year.

Adult males generally weigh from 15 to 19 lbs. and over. I have been told by foreign sportsmen that they had seen birds of 30 lbs. in weight, but these are not commonly met with. Females weigh from 7 to probably 9 lbs.

I may mention here that the Chinese shooting-men in north-eastern Chihli have three separate popular names for the Bustard. Adult males are called *Yang Pu* (Sheep Bustard), younger males are called *Ch'ing Pu* (Dark Bustard), and very small males and females are called *Chi Pu* (Chicken Bustard). The last are undoubtedly the "Ki Pou" of Père David (Nouv. Arch. Mus. Paris, Bulletin, 1867, p. 38), quoted by Swinhoe (P. Z. S. 1871, p. 402) as

“Kepoo.” So far as is known, there is but one Bustard in China.

Bustards pass the port of Newchwang on migration, and winter on the neighbouring plains.

205. *Glareola orientalis* Leach.

Glareola orientalis D. & O. p. 431 ; La T. p. 579.

The Eastern Pratincole passes from the middle of April to the beginning of May. It is very abundant on the return passage from the end of August to the end of September. The birds generally fly in very scattered order and in large flocks. Solitary specimens as well as flocks may be seen settled on the plain and in the marshes during the migration season.

This bird summers on the plains about Newchwang.

206. *Arenaria interpres* (L.).

Strepsilas interpres D. & O. p. 433.

The Turnstone was obtained by the Rev. Geo. D. Wilder at Peitaiho, the well-known summer resort situated about 10 miles west of Chinwangtao, in August.

I observed this bird near Newchwang in May 1889.

207. *Vanellus cristatus* Wolf & Meyer.

Vanellus cristatus D. & O. p. 422 ; La T. p. 580.

The Lapwing passes from early in March until the last ten days in April. In autumn I have seen it as early as the 21st of September and as late as the 9th of November.

208. *Microsarcops cinereus* (Blyth).

Chettusia cinerea D. & O. p. 422.

Microsarcops cinereus La T. p. 580.

The Grey Lapwing is apparently not common in spring. At this season I have seen it on the 26th March and in April. On the return passage it is extremely abundant from the middle of August and throughout September. In 1913, I saw one as late as the 10th of October. Large flocks follow one another on suitable days, many of these settling for a time on the marshes or on the plain.

209. *Charadrius dominicus fulvus* Gm.

Charadrius fulvus D. & O. p. 424.

The Eastern Golden Plover is rare at Chinwangtao. I shot one on the 1st of October, 1911, and have not identified any others since. I believe, however, that I have seen flocks passing at the end of August.

I found this Plover common at Newchwang at the end of August and in September.

210. *Squatarola helvetica* (L.).

Squatarola helvetica D. & O. p. 424 ; La T. p. 580.

The collectors shot on the 24th of May 1913, an example in full breeding plumage of the Grey Plover and saw a few others on the 20th and 23rd of April and on the 8th and 24th of May of that year. One was seen on the 19th of October, 1911.

211. *Ochthodromus veredus* (Gould).

Ægialitis veredus D. & O. p. 425 ; La T. p. 580.

I saw a flock of the Eastern Dotterel on the 14th of April, 1911, on the plain, but have seen none since.

212. *Ochthodromus geoffroyi* (Wagler).

Ægialitis geoffroyi D. & O. p. 426 ; La T. p. 580.

An example of the Large Sand-Plover was shot by the collectors on the 22nd of May, 1913. One was obtained by Mr. A. de C. Sowerby at Peitaiho on the 20th of July, 1916.

213. *Ochthodromus mongolicus* (Pall.).

Ægialitis mongolicus D. & O. p. 427 ; La T. p. 580.

Two examples of the Mongolian Plover were shot by the collectors on the 16th of May, 1913, and three others were seen on the same day.

214. *Ægialitis placida* (Gray).

Ægialitis placidus D. & O. p. 428 ; La T. p. 580.

Ægialitis placida Dresser, Ibis, 1908, p. 488, pl. x. (egg).

Hodgson's Ringed Plover summers in the district. I saw two at the end of May, 1911, which were apparently paired,

and in 1915 a number of eggs were brought to me by my collector, who had taken them on the stony beaches of the Shanhaikuan River (Shih Ho) in April and May. On the 2nd of May of that year, I went out to search for the eggs myself with the collector, and during the course of a day's hunt saw a number of empty nests. One containing four eggs was found. The old bird sneaked away at once, but on our lying down a few yards from the nest, it was soon seen running cautiously among the stones and it settled down again on the eggs. An attempt to photograph the bird on its nest having failed, I took the eggs, which were incubated, but not too far advanced to preserve. This nest, like all the others seen that day, was a rounded depression among the shingle and had a thin lining of scraps of twigs or grass. The nests were placed among the stones some distance from the water. The birds lay from about the middle of April to the first week in May. There are four eggs in a clutch. These vary in shape from an ovate with a much pointed apex to a pyriform shape, occasionally much pinched in at the apex. There is a moderate gloss. The ground-colour is a pale greyish green, sometimes a dull reddish clay. The eggs are finely speckled with light or dark reddish brown and lilac. The latter colour is on the surface as well as within the shell. The speckling is often thicker on the large end, but few have it so dense as to form a cap. Thirty eggs average 1.41×1.04 in., and measure from 1.37 to 1.51 in. in length and from 0.99×1.07 in breadth. The plate in 'The Ibis' represents a very dull and red type which only a few of my specimens resemble.

215. *Ægialitis dubia* (Scop.).

Ægialitis dubius D. & O. p. 429.

Ægialitis minor La T. p. 580.

The Lesser Ringed Plover arrives early in April and is common during that month in the marshes. It breeds commonly on the stony reaches of the Shih Ho, from which

locality I have clutches dated 12th and 30th April, 14th, 15th, 18th, and 29th May, and June. May is, however, the month when eggs are most commonly found. While searching for eggs on the 2nd of May, 1915, I saw only empty nests. The birds were numerous that day and were noticed pursuing one another and calling loudly as they flew. The nests are merely depressions among the shingle and contain no lining, a few small pebbles only being found in them. The eggs are buff, rarely pale buff, and are marked all over with specks and short lines of very dark and light brown over underlying grey spots. A few eggs are, in addition, scantily marked with large spots of blackish brown. One egg out of a series of 39 has the ground-colour white with a tinge of grey. Another from the same series has a cap of uniform dull brown, overlaid with the usual markings, and the apical half has a coat of dark buff, only a ring of the true buff ground-colour showing between the two. The eggs are without gloss. The most general shape is a pyriform-ovate, but pyriform eggs are common, an ovate sometimes occurs, and the apex is often much pinched in. Thirty-nine eggs range from 1.25 in. to 1.10 in. in length and from 0.92 in. to 0.83 in. in width, the largest being 1.25 × 0.89 in. and the smallest 1.12 × 0.83 in. They average 1.17 × 0.87 in.

216. *Ægialitis alexandrina* (L.).

Ægialitis cantianus D. & O. p. 430; La T. p. 580.

The Kentish Plover is common in spring on the mud flats and shores of tidal creeks. It passes again in September.

217. *Hæmatopus osculans* Swinhoe.

Hæmatopus osculans D. & O. p. 432; La T. p. 580.

The Chinese Oystercatcher is not commonly seen in the vicinity of Chinwangtao. I saw one flying over on the 20th of May, 1911, another was reported as having been shot in March 1912, and two were seen by the collectors on the 22nd of May, 1913.

218. *Himantopus candidus* Bonnat.

Himantopus candidus D. & O. p. 462 ; La T. p. 580.

I have an example of the Black-winged Stilt, which was shot in May 1911 at Lauchow. In 1913 Stilts were seen several times at Chinwangtao between the 12th of April and the 16th of May.

219. *Recurvirostra avocetta* (L.).

Recurvirostra avocetta D. & O. p. 461.

I saw two Avocets in the Chinwangtao market one late autumn.

I noticed this bird on the banks of the river Liao near Newchwang in April 1889.

220. *Ibidorhynchus struthersi* Vigors.

Ibidorhynchus struthersi D. & O. p. 456, pl. 118.

Père David states that the Ibis-Bill is a resident in the mountains of Chihli and that it nests among the shingle on the banks of the mountain streams. It was only in the spring of 1915 that I was first made aware of the occurrence of this bird in this vicinity by my collector bringing me two eggs taken by him on the 23rd of April, which he said belonged to a Curlew-like bird of grey plumage with red bill and legs. On the 2nd of May following, I set out with my man to try to find the bird and secure more eggs. We worked up the stony bed of the Shih Ho (Shanhaikuan River) to the place where the eggs mentioned above had been taken, and the empty nest was shown to me. It was a saucer-shaped depression among the stones of a shingly beach, not far from the banks of the main stream some two or three miles from the mountains. This depression was lined, as described by Mr. Dresser (*Ibis*, 1907, p. 323), with small stones, all of much the same size, and it was about eight inches in diameter. A few paces further on we came on another empty nest resembling the first nest, and on our way back to the river-bank we found a third nest—this one with an added egg in it. During the afternoon, as I was searching

the neighbourhood of this reach, I saw an Ibis-Bill feeding in the shallows a couple of hundred yards from me, which my man identified as the kind of bird to which the eggs he had brought me belonged. This one flew off at long range, and my collector told me the birds were extremely wild during the nesting-season. In winter they are more easily approached, and at that season they are to be found among the mountains. Owing to its protective colouring this bird is hardly visible against a background of water and shingle. The flight is low, not rapid, and reminds one of that of certain Sandpipers. My collector subsequently brought me two more eggs taken on the 22nd of May following; in 1916 a clutch of four were taken on the 9th of April, and subsequently a clutch of four were taken by him in the same locality on the 14th of April, 1918; these last were sent to the British Museum without being measured. He also shot on the 20th of September, 1915, a bird of the year in immature dress. The bill of this bird was dark red, the legs pale pinkish-mauve.

The eggs taken on the 23rd of April and 22nd May, 1915, and 9th April, 1916, bear a general resemblance to those figured by Mr. Dresser (Ibis, 1907, pl. vi.), but are perhaps rather greener. The ground-colour is, when fresh, of a greyish-green, which turns somewhat red after a time. The spots are reddish-brown and reddish-purple. The addled egg found on the 2nd of May is greyer and the markings, which are large, are faint—possibly washed out. It is of a somewhat broad-ovate, while the other eggs are of a truer ovate. These nine eggs measure as follows:—

23 April, 1915, two eggs 1.99×1.50 , 2.06×1.48 inch.

2 May, „ one egg 1.88×1.50 inch.

22 „ „ two eggs 1.88×1.42 „

9 April, 1916, four „ 1.97×1.47 „

1.97×1.49 „

2.07×1.42 „

2.05×1.45 „

221. *Numenius arquatus* (L.).

Numenius lineatus D. & O. p. 457.

Numenius arquatus La T. p. 581.

Curlew are met with in spring from the last decade in March to the end of May, and pass again very early in July. I have heard them calling at night as early as the end of June, but it may be that birds heard so early in the season were wanderers from neighbouring breeding-grounds. I saw three undoubted Common Curlew on the 21st of April, 1912, and the collectors recorded seeing them from the 31st of March to the 28th of May, and shot one out of three on the 28th of August, 1917; but, as a rule, the Curlew in this vicinity keep to the inaccessible mud-flats, and it is difficult to ascertain with certainty whether the birds belong to this or the following species.

The Curlew passes Newchwang on migration.

222. *Numenius cyanopus* Vieillot.

Numenius tahitiensis D. & O. p. 458.

Numenius cyanopus La T. p. 581.

The Eastern Curlew was noted in 1913 from the 12th of April to the 3rd of May. It is very probable that the birds heard at night in summer are of this species. I have seen them in September.

This Curlew breeds, I believe, on the plains near Newchwang.

223. *Numenius phaeopus variegatus* Scop.

Numenius phaeopus D. & O. p. 457.

Numenius variegatus La T. p. 581.

The collectors recorded the Eastern Whimbrel throughout May 1913. I have seen it passing on the 27th of August and on other dates. It is quite a common migrant both in spring and in early autumn.

I noticed this bird on migration at Newchwang.

224. *Mesoscolopax minutus* (Gould).

Numenius minutus D. & O. p. 458.

Mesoscolopax minutus La T. p. 581.

The Little Curlew passes in spring during the latter half

of April and the first week in May. It is extremely abundant on passage during September.

I noted this bird as a migrant at Newchwang in 1889.

225. *Limosa limosa melanuroides* Gould.

Limosa brevipes D. & O. p. 460.

The Eastern Black-tailed Godwit passes in August. I shot a young bird out of a party of three on the 25th of August, 1912, and was shown another a couple of years afterwards on the 9th of August.

This Godwit was very abundant at Newchwang in April 1889, and was observed again at the end of August and in September of that year.

226. *Terekia cinerea* (Güldenst.).

Terekia cinerea D. & O. p. 460; La T. p. 581.

The Terek Sandpiper was observed and shot by the collectors from the 1st to the 16th of May, 1913. Mr. Sowerby procured an example in breeding plumage at Peitaiho in July 1916.

This Sandpiper was observed by me at Newchwang in April.

227. *Tringoides hypoleucus* (L.).

Tringoides hypoleucus D. & O. p. 467.

Totanus hypoleucus La T. p. 581.

The Common Sandpiper passes in May, August, and September.

228. *Totanus glareola* (L.).

Totanus glareola D. & O. p. 464; La T. p. 581.

The Wood-Sandpiper appears to be the commonest Sandpiper at Chinwangtao. It passes towards the beginning of May and from the beginning of August to the first week in September.

229. *Totanus ochropus* (L.).

Totanus ochropus D. & O. p. 465; La T. p. 581.

The Green Sandpiper passes from the end of April to probably the end of May. A pair seen inland on the banks

of a stream were very possibly preparing to breed. It no doubt passes with the other Waders in August and September, but I have no recorded observations for those months. I have, however, observed it on the 11th of October.

230. *Totanus calidris* (L.).

Totanus calidris D. & O. p. 464; La T. p. 581.

The Redshank passes at the end of March and was also recorded during the first half of May 1913 by the collectors. I believe I have seen it in August.

This Sandpiper and the preceding three species were observed on migration at Newchwang in the late summer and early autumn of the year 1889. The Green Sandpiper was the first to appear, and was to be seen singly or in small parties on the banks of pools and in marshy spots.

231. *Totanus fuscus* (L.).

Totanus fuscus D. & O. p. 463; La T. p. 581.

The Dusky Redshank has been observed at the end of March and beginning of April, in September, and early in October.

232. *Totanus incanus brevipes* Vieillot.

Totanus incanus D. & O. p. 466.

On the 13th of September, 1915, I saw on the shores of the Junk Harbour at Chinwangtao two grey Sandpipers which appeared to me to be the Eastern Grey Sandpiper, The Rev. Geo. D. Wilder shot an example in summer plumage at Peitaiho in August 1916, and I have seen two others shot in the same locality in September by Mr. Hubbard of Paoting-fu.

233. *Totanus glottis* (L.).

Totanus glottis D. & O. p. 462.

The Greenshank passes in September and October. It doubtless passes also in spring, but I have no records. Mr. Sowerby obtained one in summer plumage at Peitaiho on the 15th of July, 1916.

This Sandpiper was seen by me at Newchwang in 1889 in spring and on the return passage.

234. *Calidris arenaria* (L.).

Calidris arenaria D. & O. p. 467; La T. p. 581.

Tringa acuminata La T. p. 581.

On the 22nd of May, 1911 I shot on the seashore at Chinwangtao two Sandpipers in breeding-dress which I noted down as Sharp-tailed Stints and put away without comparing them. On examining one of these birds lately, I found it was a Sanderling. I unfortunately recorded the party of Sandpipers out of which I shot these examples in my paper on Chinwangtao migrants (Ibis, 1914, p. 581) as *Tringa acuminata*. This species, although there is no doubt that it passes there, must for the present be eliminated from my list.

A second party of Sanderlings was met with by me at the same place on the 18th of May, 1913, out of which I shot three examples which formed part of the collection made that year for the Migration Committee of the B. O. C.

Mr. Sowerby obtained an example in summer plumage at Peitaiho on the 17th of July, 1916.

235. *Tringa minuta ruficollis* Pall.

Tringa ruficollis D. & O. p. 472 (part).

Mr. A. de C. Sowerby obtained the Eastern Little Stint in summer plumage at Peitaiho on the 16th of July, 1916.

This bird was abundant on the marshy plain near Newchwang in September 1889.

236. *Tringa damacensis* Horsf.

Tringa ruficollis D. & O. p. 472 (part).

The Long-toed Stint was obtained by Mr. Sowerby in worn summer plumage at Peitaiho on the 14th of July, 1916. I shot this bird at the marshes near Chinwangtao on the 22nd of August and 3rd of September following.

237. *Tringa temminckii* Leisl.

Tringa temminckii D. & O. p. 473.

I shot a Temminck's Stint on the 25th of August, 1912.

238. *Tringa crassirostris* T. & S.

Tringa crassirostris D. & O. p. 468.

The Eastern Knot was obtained by Mr. Sowerby in summer dress at Peitaiho on the 17th of July, 1916.

239. *Tringa canutus* (L.).

Tringa canutus D. & O. p. 469.

The Knot was also obtained by Mr. Sowerby at Peitaiho on the 17th of July, 1916. The specimen submitted to me was in full summer dress.

240. *Tringa subarquata* (Güldenst.).

Tringa subarquata D. & O. p. 472.

A specimen of the Curlew-Stint in part summer plumage (worn above and mixed with winter plumage on the underparts) obtained by Mr. Sowerby at Peitaiho on the 18th of July, 1916, was sent to me for investigation together with the other Waders mentioned above.

241. *Tringa cinclus americana* Cass.

Tringa cinclus D. & O. p. 471.

Tringa americana La T. p. 581.

The collectors shot on the 3rd of May, 1913, a Pacific Dunlin in summer plumage out of a party of five. I shot one of two birds on the 12th of October following. This bird is a young bird putting on winter plumage. Mr. Sowerby procured at Peitaiho on the 14th, 16th, and 18th of July, 1916, three examples in summer plumage.

Dunlins were abundant on the Newchwang plain in September 1889.

242. *Tringa platyrhyncha* Temm.

Tringa platyrhyncha D. & O. p. 470.

A Broad-billed Stint in summer plumage, shot on the 14th of July, 1916, was among the Waders sent to me by Mr. Sowerby from Peitaiho.

243. *Scolopax rusticola* L.

Scolopax rusticola D. & O. p. 475 ; La T. p. 582.

The Woodcock is found at Chinwangtao during April and

May and again in September. It is not at all uncommon during the latter month.

Woodcock were not rare on passage at Newehwang during September in the 'eighties of last century.

244. *Gallinago solitaria* (Hodgs.).

Gallinago solitaria D. & O. p. 476, pl. 122.

I have a handsome example of the Himalayan Solitary Snipe bought in the Chinwangtao market on the 20th of December, 1914. It was in perfect condition and must have been shot only a few days previously. It is evidently a winter resident in the mountains of Chihli, as on the Yangtse.

245. *Gallinago megala* Swinhoe.

Gallinago megala D. & O. p. 477; La T. p. 582.

Swinhoe's Snipe passes in May and during the last ten days of August. It is much less common about Chinwangtao than the Pintail and Common Snipe.

246. *Gallinago stenura* Horsf.

Gallinago stenura D. & O. p. 478; La T. p. 582.

The Pin-tailed Snipe passes in May and again throughout August and during the first few days of September. It is more or less abundant, according to the state of the ground.

247. *Gallinago cœlestis* Frenz.

Gallinago scolopacina D. & O. p. 478.

Gallinago cœlestis La T. p. 581.

The Common Snipe arrives towards the end of March or early in April, according to the season, and remains during the first half of May. I shot a belated bird on the 16th of June, 1913. It begins to pass again during the last half of August, and in suitable spots remains throughout September. Laggards may be found in October and even in November. I put up one from a stream in the uplands north of the port on the 26th of November, 1911. The temperature that day was so cold that the water we had with us for drinking-purposes froze solid in the bottle.

In September 1913, owing probably to the favourable condition of the marshes in this vicinity, Snipe of this species swarmed there during the first half of the month. As a rule, April, May, and September are the months during which the birds are most abundant.

248. *Limnocryptes gallinula* (L.).

Gallinago gallinula D. & O. p. 479.

Sir Francis Aglen, K.B.E., Inspector-General of the Chinese Maritime Customs, informed me that he had shot a Jack-Snipe near Peitaiho, the well-known seaside resort near Chinwangtao, towards the end of August 1915. Père David states that foreign sportsmen assured him that they had shot this bird near Peking. I have the wings, legs, and head of a plucked bird which had been purchased in the Shanghai market, and also a skin of a bird shot at Foochow on the 12th of October, 1910, for which I am indebted to Mr. C. B. Rickett.

249. *Rostratula capensis* (L.).

Rhynchæa capensis D. & O. p. 480.

I have a single male example of the Painted Snipe shot by Sir Francis Aglen, K.B.E., at the marshes near Chinwangtao on the 11th of September, 1916. It is the only bird of this species seen by me from that locality.

250. *Larus ridibundus* L.

Chroicocephalus ridibundus D. & O. p. 520.

Larus ridibundus La T. p. 582.

Migrating parties of the Laughing Gull appear towards the middle of March and the birds are abundant until the first week in May, after which they disappear, to begin passing again early in July. Birds seen travelling in July appeared to still have the hood. They may be seen in July and August flying along the coast, going south-west. I have seen them until very late in November on the tidal creeks, but I do not think that any winter here.

The Laughing Gull was common at Newchwang during my stay there in 1889.

251. *Larus canus* L.

Larus canus D. & O. p. 517.

I have seen one Common Gull hanging in the market, and noticed medium-sized Gulls about the harbour and coast which were doubtless of this species.

This Gull was common at Newchwang in 1889.

252. *Larus argentatus vegæ* Stejn.

Larus occidentalis D. & O. p. 520.

Larus vegæ vel *cachinnans* La T. p. 519.

Large Herring-Gulls pass at much the same seasons as the Laughing Gull, and are to be seen often during the winter about the harbour or passing over the plain. Those seen at fairly close quarters appeared to be the Pink-legged Herring-Gull. A few specimens are to be seen hanging in the game-shops in winter.

Larus crassirostris was common at Newchwang in 1889, but I have no certain note of its occurrence at Chinwangtao. If it does occur, it is very rare.

253. *Larus cachinnans* Pall.

Larus cachinnans D. & O. p. 520.

On the 29th of November, 1914, I saw an immature example of the Mediterranean Herring-Gull hanging in a game-shop in the village.

254. *Larus glaucus* Brünn.

On the 5th of February, 1917, I observed among a number of Gulls in the harbour two Glaucous Gulls. I had not noticed this species at Chinwangtao before, but it is quite possible that I had overlooked it. The winter 1916-1917 was exceedingly cold and the port was ice-bound for some time, so that the presence of these Gulls here was probably due to the severe weather-conditions prevailing at the time.

255. *Hydrochelidon hybrida* (Pall.).

Hydrochelidon hybrida D. & O. p. 524.

The Rev. Geo. D. Wilder shot a specimen of the Whiskered Tern between Peitaiho and Chinwangtao on the 31st of July,

1916, and saw that day many flocks of this Tern passing down the coast.

256. *Hydrochelidon leucoptera* (Schinz).

Hydrochelidon leucoptera D. & O. p. 524; La T. p. 582.

The White-winged Black Tern passes in spring and is very abundant during the latter half of August, when it travels along the coast in flocks.

I noticed this Tern on the Newchwang plain in May and June, and on the River Liao on the 11th of August, 1889.

257. *Gelochelidon anglica* (Mont.).

Sterna anglica La T. p. 582.

A single example of the Gull-billed Tern was seen at the port on the 4th of May, 1913.

258. *Sterna hirundo tibetana* Saunders.

Sterna fluviatilis D. & O. p. 525.

I have seen numbers of medium-sized Tern passing in flocks during August and September which were probably this species or *S. longipennis*, but none were collected. My collector, however, brought me at the beginning of July 1915 ten eggs and an example of *S. tibetana* from the coast, about twenty miles W.S.W. of Chinwangtao, where he found this Tern breeding among the sand-dunes. These eggs are brownish olive, deep buff, and yellowish-green, with spots and large blotches of dark brown over inky purplish-grey blotches, the latter being on the surface as well as within the shell. The shape varies from a somewhat oval-ovate to broad-ovate. The longest egg measures 1.75×1.18 in., the shortest 1.53×1.17 in., the broadest 1.66×1.23 in., and the narrowest 1.64×1.13 in. The ten eggs average 1.64×1.18 in.

259. *Sterna sinensis* Gm.

Sternula sinensis D. & O. p. 527.

Sterna sinensis La T. p. 582.

The Chinese Tern arrives about the fourth week in May and breeds commonly in the district. It lays three eggs in

a depression in sand-banks in the vicinity of water (rivers or sea). I have eggs dated 29th May, 2nd, 4th, 5th, and 8th June, end of June, and July, taken on the Shanhaikuan River and down the coast. The eggs are buff, greenish-buff, and pale yellowish-green, spotted with brown or reddish and purplish-grey, the latter in different shades and both on the surface and within the shell. The spots are generally small and sometimes are partly concentrated in a rough zone. The general shape is ovate or oval-ovate. Thirty-two eggs average 1.29×0.96 in. The longest measures 1.37×0.96 in., the shortest 1.19×0.92 in., the broadest 1.28×0.98 in., and the narrowest diameter (three eggs) is 0.91 in.

This Tern remains somewhat late, and may be seen fishing in the marshes until about the middle of October.

I saw flocks of this Tern flying over the plain near Newchwang in May and June, and also on the River Liao on the 11th of August, 1889.

260. *Phalacrocorax carbo* (L.).

Phalacrocorax carbo D. & O. p. 532; La T. p. 582.

Cormorants pass in spring from the end of March to the end of April, and are not uncommonly seen during the autumn passage. One observed sitting on the rocks on the 11th of August, 1912, appeared from its size to be *P. pelagicus*.

261. *Fregata ariel* (Gould).

Attagen minor D. & O. p. 534.

I saw on the 19th of August, 1915, circling over the cliffs and harbour at Chinwangtao, a large bird which must have been a Lesser Frigate-bird. On the 5th of October following, a friend saw circling over the harbour a large black bird with deeply forked tail, which was doubtless another example of this bird. The Smaller Frigate-bird occurs in summer on the coast of south-east China and has been seen or taken on the Lower Yangtse and at Shaweishan, but until 1915 it had not been noticed so far north on the China coast.

Towards the end of July 1889, I saw on the river at Newchwang a brown Albatross. This bird allowed a native to fire at it repeatedly at very close range without rising from the water. After several shots had been fired, it rose, apparently none the worse, and sailed away, passing a hundred yards or so from the boat I was in.

262. *Ibis melanocephala* (Lath.).

Ibis melanocephala D. & O. p. 452.

A white Ibis with black head and neck seen at the marshes on the 5th of October, 1913, was without doubt an example of the White Ibis.

When at Newchwang, in 1889, I was given a skin of the Japanese Crested Ibis (*Nipponia nippon*) by Mr. Farmer, then Constable of H.B.M.'s Consulate at the port, who told me that he had seen a breeding-colony of these birds some way up the River Liao. I saw a flock fly over the settlement towards the end of the autumn.

263. *Platalea leucorodia* L.

Platalea major D. & O. p. 451 (part).

I saw a Spoonbill passing on the 13th of October, 1912, and shot another on the 12th of October, 1913. The latter bird, a male, is in fresh immature plumage. The shafts of the wing-quills and the tips of these are black. The colours of the soft parts were as follows:—Iris dull burnt-sienna; bill livid violet-black at the base, the greater part of the upper mandible yellow with black stripes; skin of throat and lores yellow; legs and feet black, the soles spotted with yellowish. Bill 9·35 in., wing 15·5 in.

264. *Ciconia ciconia boyciana* Swinhoe?

Ciconia boyciana D. & O. p. 450.

Four very large white birds with black wings seen passing on the 20th of November, 1910, were most probably White Storks. I have a male example purchased in the market at Chinwangtao. It is almost adult.

265. *Ciconia nigra* L.*Ciconia nigra* D. & O. p. 450.

The Black Stork breeds, I am informed, among the high rocks in the mountains about 30 miles north of Chinwangtao. I saw it soaring overhead on the 30th and 31st of October, 1911. It passes regularly in spring and autumn. I have two adult specimens shot in this neighbourhood :—

♀, 2nd Nov., 1915. Bill crimson, skin round the eye and chin vermilion; legs crimson, the scales on the front of the tarsus and on feet black, soles of feet vermilion. Total length 41·20 in., wing 22 in., tarsus 8 in., tail 9·30 in., culmen 7·30 in.

♂, 4th March, 1916. Soft parts as above. Total length 43·75 in., wing 23·30 in., tail 10·20 in., culmen 7·4 in., tarsus 8·40 in.

I saw, while riding on the plain near Newchwang, in 1889, two large birds, which were without doubt Black Storks.

266. *Ardea manillensis* Meyen.*Ardea purpurea* D. & O. p. 438.*Ardea manillensis* La T. p. 583.

The Eastern Purple Heron is common on migration. It was specially abundant in 1911, when I saw numbers in the marshes on the 14th of April. On the 6th of October following, some 200 passed over the plain. It passes in April, May, September, and October.

267. *Ardea cinerea* L.*Ardea cinerea* D. & O. p. 437; La T. p. 582.

The Grey Heron is an abundant migrant. It passes from the latter half of March to the end of May and from the last ten days of July to the end of October. A few must summer in the vicinity of Chinwangtao, as I have seen twice in the early summer a pair which were evidently settled for the breeding-season. Hard-sat eggs were brought to me on the 26th of May, 1917, and two young birds the following June.

I saw the Grey Heron at Newchwang in May 1889.

268. *Herodias alba* L.

Herodias alba D. & O. p. 439.

A single Great Egret was seen at the marshes on the 5th of November, 1911.

Large white Herons, seen near Newchwang on the 19th of May, 1889, were most probably of this species.

269. *Butorides javanicus amurensis* Schrenck.

Butorides macrorhynchus D. & O. p. 413.

Butorides amurensis La T. p. 583.

The collectors saw an example of the Little Green Heron on the 31st of May, 1913; I saw another at the port on the 22nd of May, 1914. A friend sent me a live adult bird on the 4th of June, 1914, which I released after taking measurements and noting the colour of the soft parts. These were as follows:—Iris yellow, lower mandible and sides of upper mandible and skin of lores greenish-yellow, legs yellowish-green. Wing 7·80 in., culmen 2·50 in.

270. *Botaurus stellaris* (L.).

Botaurus stellaris D. & O. p. 446; La T. p. 583.

The Bittern is often seen on migration. It occurs from the end of March and during April, and during the latter half of September and the first few days of October.

271. *Nyctiardea nycticorax* (L.).

Nyctiardea nycticorax D. & O. p. 444; La T. p. 583.

The Night-Heron was shot by the collectors on the 29th of March, 1913, and seen by them on the 29th of April following. I believe that I saw one in the marshes on the 28th of September, 1913.

272. *Ardetta eurhythmia* Swinhoe.

Ardetta eurhythmia D. & O. p. 447; La T. p. 583.

Von Schrenck's Little Bittern summers in the district. I saw a specimen on the 28th of May, 1911, the collectors shot one on the 20th of May, 1913, and I have a specimen taken in autumn by a native hunter.

I collected a male example at Newchwang on the 19th of May, 1889.

273. *Ardetta sinensis* (Gm.).

Ardetta sinensis D. & O. p. 448.

I have not obtained any specimens of the Chinese Little Bittern in the vicinity of Chinwangtao, but I have a number of the eggs of the bird, which were brought to me from the Hsien Chia Ying marshes and which had been taken in June and July.

274. *Cygnus cygnus* (L.).

Cygnus ferus D. & O. p. 493.

An example of the Whooper was exposed for sale in the market during January 1912.

A handsome adult Swan, which I originally took to be of this species but which I now think must be an adult male *C. jankowskyi*, was brought to me alive on the 19th of March, 1917. It had been snared and was quite uninjured. This bird lived in our yard throughout the summer and did not appear to suffer from the summer heat. It was successfully taken to Shanghai when we left Chinwangtao in the following October and was given to Père Courtois, the Curator of the Sikawei Museum, who has placed it, together with the other wild fowl presented to him by me that autumn, in a large enclosure attached to the Museum. This Swan refused all food until the 22nd of March, when it ate some soaked bread. The next day it ate boiled green beans, and until late in the summer, when it began to eat the bran and kaoliang given to the other wild fowl in the yard, it would touch nothing but these boiled green beans. It became fairly tame after a few weeks, but never came up to ask for its food like the wild geese did. At the end of March it began to call, the sound being a gentle "cook cook." Later in the summer and in the autumn it occasionally uttered a loud call sounding something like "waw" or "wow." Several times during the spring this bird and its companion in captivity (a *C. jankowskyi*) were seen to perform a curious wild dance round the yard, running madly with open wings and uttering love screams. I did not witness these performances myself, but they took place in the presence of my children, who reported the facts to me.

The somewhat orange-yellow patch on the bill and forehead of this Swan does not extend beyond the nostril, reaching only to the posterior end of the aperture. It measured from the feathers on the forehead 1.4 in. in length. The culmen and bare forehead together measured 4.4 in. The shape of the head is rounded, the feathering stopping at a line *above* the eye.

275. *Cygnus jankowskyi* Alphéraky.

Cygnus minor D. & O. p. 494.

Cygnus jankowskyi La T. p. 584.

I saw Swans on five occasions during March 1911, and the collectors saw several large parties and flocks in March 1913, and on the 1st of April that year. Since then I have not noticed them passing, but most probably overlooked the passage. An example shot at the Hsieh Chia Ying marshes by the collectors was identified by Mr. Ogilvie-Grant as being a specimen of Jankowski's Swan. I have two others: an adult bird shot here on the 19th of March, 1911, and an immature bird from Shanhaikuan, shot at the end of March or beginning of April 1914.

I purchased a winged adult bird on the 17th of March, 1917, which I kept in our yard until the following October, when I took it to Shanghai with the other Swan mentioned above. This bird recovered from its wound after a few weeks, but it was several days before it would feed. Eventually it took to a diet of boiled green beans and, like its unwounded companion, ended by eating also the soaked bran and kaoliang given to the other wild fowl. Many weeks passed, however, before it would eat in the presence of anyone. The iris of this bird when it was in my possession was greyish, and the bird's facies was very different from that of its companion. The line of the forehead feathering was prolonged at an angle over the base of the upper mandible, the feathering reaching to a distance from which a line could be drawn *through* the centre of the eye, whereas in the other Swan, as noted above, this feathering stopped

above the eye. The shape of the head was also different, being angular, not rounded as in the other bird.

Père Courtois considers these two Swans to be both *jankowskyi* (see Ois. du Musée de Sikawei, p. 120, Man. conc. l'Hist. Nat. de l'emp. Chinois, Tome v. 3^{me} cahier, 1918).

Swans were abundant on passage at Newchwang during the spring of 1890, and the natives brought several, both alive and dead, for sale.

Mr. A. L. Hall, who was for some years stationed in northern Chihli, on the borders of the Gobi desert, informed me that he had shot Snow-Geese there. These birds are said to occur near Tientsin. *Cygnus davidi* so far has not been re-discovered. The type has been apparently lost.

276. *Anser cygnoides* (L.).

Anser cygnoides D. & O. p. 493.

The only Swan-Goose seen by me here is one which I shot at the marshes on the 10th of October, 1912. It was a wounded bird, a male in poor condition, probably a bird of the year, as the bill showed no sign of a tubercle. Culmen 2.5 in., wing 16.7 in.

This Goose used to be abundant at the mouth of the River Liao (near Newchwang). I shot several there in 1889 from the beginning of September.

277. *Anser anser rubrirostris* Hodgson.

Anser cinereus D. & O. p. 491.

Anser rubrirostris La T. p. 583.

The Eastern Grey Lag-Goose appears to be uncommon. Two specimens shot in March at the Hsieh Chia Ying marshes are in the British Museum.

278. *Anser segetum* (Gm.).

Anser segetum D. & O. p. 491 (part); La T. p. 583.

The Bean-Goose is apparently very common during times of passage, judging from the proportion of these birds shot

as compared with the other Bean-Geese. Specimens collected in the spring of 1913 were all shot from the 19th to the 31st of March.

Geese pass in spring from the end of February to the middle of April, and in autumn from the end of August or beginning of September to the 5th or 6th of November.

I kept at Chinwangtao live examples of the Common Bean-Goose. One which I had for two years was purchased from a hawker in the autumn of 1915. It was extremely tame from the very beginning, and has since become the inseparable companion of two domestic ganders, following them everywhere and showing much distress when separated from them, honking loudly until re-united to them. During the winter it suffered much from the cold and at that season constantly uttered a plaintive squeak. During the hot weather it was almost equally incommoded, and then ran about the yard seeking shelter with a perpetual tremulous honk. It moulted the contour-feathers in the spring and the wing-quills in September. This Goose was very jealous of the other wild geese in the yard, and would attack them and chase them away.

I have noticed that these birds appeared to be fond of cooked meat.

Bean-Geese were very abundant at Newchwang in the spring of 1890.

279. *Anser segetum serrirostris* Swinhoe.

Anser segetum D. & O. p. 491 (part).

Anser serrirostris La T. p. 583.

The Eastern Bean-Goose is about as common on passage as *Anser segetum*. I have seen or shot examples in March and October. I purchased two live winged birds in March 1917—one escaped, but the other became sufficiently domesticated and was also sent to Shanghai in October 1917. This bird had a deep honk very different from that of the Goose mentioned above. It had a trick of standing sentry on a low wall in the yard, where it would remain for a long time, and often, if disturbed, it would walk off balancing itself

like a tight-rope dancer along the sharp-edged ridge or coping of the wall.

280. *Anser middendorffi* Severtz.

Anser segetum D. & O. p. 491 (part).

Anser middendorffi La T. p. 583.

A specimen of the Great Bean-Goose was shot at Chin-wangtao on the 29th of October, 1911, and two at the Hsieh Chia Ying marshes on the 29th of March, 1913, and in March 1914. Besides these I have one from Shaweishan, at the mouth of the Yangtse, and there is another shot at Fu-an, in north-eastern Fohkien, on the 3rd of January, 1914, which is in the British Museum (Natural History). This fine Goose, which may be distinguished at a glance from the other Bean-Geese found in the Far East by its very long and large bill, is not very rare on the coast, and it is strange that it should have been overlooked by Swinhoe. It is, however, by far the least common of the Chinese Bean-Geese. Tang Wang-wang, my former collector at Foochow, wrote to me this last winter that this Goose was very abundant in January 1916 in the Shanghai market. Two males in my collection from Shaweishan and Hsieh Chia Ying measure 19 in. in the wing. The bills in five specimens measure as follows: Culmen 72 mm. to 86 mm. Number of teeth 24 to 29.

Mr. Sowerby, in his 'Sportsman's Miscellany,' mentions the shooting of several of these Geese on the Yangtse, where he states they are numerous. The weight of one, shot by Mr. H. E. Gibson of Shanghai, is given in this work (p. 90) as having been 13½ lbs.

281. *Anser albifrons* (Gm.).

Anser albifrons D. & O. p. 492; La T. p. 583.

The White-fronted Goose is quite common in spring. It passes in March and during the first half of April. I have no record of the autumn passage.

The soft parts of birds shot are:—Bill pinkish-flesh, nail white; legs orange; the rim of the eyelid is brown.

The following are measurements of four birds in my collection:—

Foochow, ♂	Culmen 1·75 in.	Wing 16·25 in.
„ ♂	„ 1·97 „	„ 16·50 „
Chinkiang	„ 1·75 „	„ 16·75 „
Chinwangtao, ♀ ...	„ 1·50 „	„ 15·75 „

282. *Anser erythropus* (L.).

Anser erythropus D. & O. p. 492 ; La T. p. 583.

I shot a Lesser White-fronted Goose on the 14th of April, 1911, out of a flock which was resting on the plain. A flock of small Geese, seen passing over on the 6th of April, 1913, was probably composed of this species. The soft parts of the bird shot were as follows:—Iris brown ; rim of eyelid yellow ; bill pink with a dark spot on the nail ; legs orange. The culmen measures 1·25 in. and the wing 14·90 in. Sex ♀.

White-fronted Geese were very common at Newchwang in the spring of 1890. I procured a specimen which, to the best of my recollection, was of the larger species.

283. *Tadorna cornuta* (Gm.).

Tadorna belonii D. & O. p. 497.

Tadorna cornuta La T. p. 584.

The Common Sheldrake passes in April and from mid-September to mid-October.

284. *Casarca rutila* (L.).

Casarca rutila D. & O. p. 497 ; La T. p. 584.

The Ruddy Sheldrake winters on the plain. It passes throughout March to the beginning of May and in autumn from the latter half of October.

285. *Anas boschas* L.

Anas boschas D. & O. p. 495 ; La T. p. 584.

The Mallard is one of the commonest Ducks. I have observed it from the beginning of March to the beginning of May, and from the 20th of September to the beginning of

November. A few winter in the mountains on unfrozen streams.

A winged bird kept with the fowls and a tame duck became very friendly with the latter, and after a few months lost most of its natural shyness, feeding with the domestic bird and quacking with it in concert when its food was brought to the chicken-yard.

286. *Anas zonorhyncha* Swinhoe.

Anas zonorhyncha D. & O. p. 496; La T. p. 584.

The Yellow-Nib Duck passes in March and April, and from the beginning of September to November. It probably breeds here as elsewhere in China. I have seen it hanging in the game-shops in the market during January.

This Duck was observed by me near Newchwang in early summer.

287. *Eunetta falcata* (Pallas).

Eunetta falcata D. & O. p. 504; La T. p. 585.

The Falcated Teal is extremely abundant from the middle of March to the beginning of May and during the latter half of September, remaining until the end of October, and occasionally during November, as four were noted on the 13th of November, 1911.

A winged bird, purchased in the spring of 1913, partly put on eclipse plumage late in the summer. The forehead, crown, lores, and sides of the head became brown, the forehead and crown being barred with deep buff. Scapulars brown, vermiculated or barred with dull light reddish-brown; the flanks reddish-brown, evenly barred with pale rufous, ring round the neck deep brown; chin and sides of neck speckled with brown.

288. *Chaulelasmus streperus* (L.).

Chaulelasmus streperus D. & O. p. 499; La T. p. 585.

I shot a male Gadwall on the 12th of April, 1911, and a female on the 28th of September, 1913. This is one of the less common Ducks in China.

289. *Nettion formosum* (Georgi).*Eunetta formosa* D. & O. p. 503.*Nettion formosum* La T. p. 585.

The Spectacled or Baikal Teal is extremely abundant on passage. It passes from about the 10th of March to the end of that month, and from the beginning of September to the end of October.

290. *Nettion crecca* (L.).*Querquedula crecca* D. & O. p. 503.*Nettion crecca* La T. p. 585.

The Common Teal is very abundant in spring and autumn. It passes from about the 10th of March to about the 20th of April, and from the beginning of September to the end of October. As I have seen it in the winter in the game-stalls in the market, it is most probable that a few winter in the mountains.

This Teal was one of the commonest Ducks at Newchwang in 1889-90.

291. *Mareca penelope* (L.).*Mareca penelope* D. & O. p. 499 ; La T. p. 585.

I saw and shot Wigeon in April 1911 and April 1913, and saw one shot in October 1912. It does not appear to be so common as most of the Ducks.

292. *Dafila acuta* (L.).*Dafila acuta* D. & O. p. 498 ; La T. p. 584.

The Pintail is perhaps the most abundant of the larger Ducks. I have seen it from the end of February to the middle of April, and from the middle of September to the end of October.

The Pintail was with the Common Teal the most abundant Duck at Newchwang in 1889-90.

293. *Querquedula ciria* (L.).*Querquedula ciria* D. & O. p. 502 ; La T. p. 585.

The Garganey appears at the end of March and during September. In 1913 it was seen as late as the 31st of May.

294. *Æx galericulata* (L.).

Aix galericulata D. & O. p. 501.

Æx galericulata La T. p. 584.

A female Mandarin-Duck was shot by the collectors on the 17th of April, 1913. This is the only specimen of this species that I have seen here.

The Mandarin-Duck was found breeding in Manchurian forests by Mr. A. de C. Sowerby.

295. *Spatula clypeata* (L.).

Spatula clypeata D. & O. p. 500; La T. p. 585.

The Shoveler is to be seen on passage from about the 10th of March to the middle of May, and again commonly during the first fifteen days of October. It doubtless occurs also in September.

296. *Fuligula ferruginea* (Gm.).

Fulix nyroca D. & O. p. 507.

The White-eyed Duck is extremely abundant during the latter half of September and beginning of October. It remains until the end of the latter month. This Duck, which is said by Père David to abound near Peking in spring, has never to my knowledge been recorded on the Lower Yangtse or in south-east China, but I believe that two or three White-eyed Ducks seen in the Shasi (Hupeh province) market on the 25th of February, 1918, were of this species.

297. *Fuligula marila* (L.).

Fulix marila D. & O. p. 507.

I saw several Scaup on the 16th of April, 1916, on the large pond at Chinwangtao.

298. *Fuligula cristata* (L.).

Fulix cristata D. & O. p. 508; La T. p. 585.

The Tufted Duck is common in spring and in October.

299. *Clangula glaucion* (L.).

Bucephala clangula D. & O. p. 505.

Clangula glaucion La T. p. 585.

The Golden-Eye is common in spring during March and April, and from the beginning of October until the marshes freeze over. In winter it may be seen on the sea near the shore in open places, and it is the commonest Duck exposed for sale at that season.

300. *Harelda glacialis* (L.).

Harelda glacialis D. & O. p. 506.

I procured an immature male of the Long-tailed Duck in the market on the 5th of April, 1916, and on the following day an adult female. These would appear to be the second and third examples of this Duck to be recorded from northern China. The first known example, according to Père David, was shot at Taku (mouth of the Peiho). The measurements and colour of soft parts of the birds obtained at Chinwangtao were as follows:—

♂. Iris hazel-brown; upper mandible black with orange-red band just before the nail, lower mandible dark pink along the edge and pale pink along the middle; legs very pale grey with dark webs and joints. Culmen 1·15, wing 8·70, tail (worn) 3·00, tarsus 1·50, total length 17·30 in.

♀. Iris hazel; base of upper and lower mandible pale dull green, culmen and apical part of upper and lower mandible blackish; legs as in the male. Wing 8·65, total length 17 in.

301. *Oidemia carbo* (Pallas).

Oidemia fusca D. & O. p. 504.

Oidemiu carbo La T. p. 585.

I obtained females and an adult male of the Eastern Velvet Scoter in the market during December 1912 and on the 6th and 21st of February following; Captain Stewart, 124th Baluchis, gave me two adult males, found by him dead or dying on the seashore. These and the male obtained

in the market were greatly emaciated, merely skin and bone, and had evidently died of starvation. The stomach of all three birds was empty, containing but one broken bivalve. The same year (1913) the collectors met on the 14th of April a man with a number of netted birds, just caught. The soft parts of the birds obtained in winter were coloured as follows :—

♂. Bill, tubercle and base black, apical half yellow with triangular red patch on either side of the culmen; legs and feet vermilion with blackish joints and webs.

♀. Bill black; legs brownish black washed with reddish.

302. *Mergus albellus* (L.).

Mergellus albellus D. & O. p. 509.

Mergus albellus La T. p. 586.

The Smew may be seen in October and at the beginning of November, and probably winters. It is commonly seen in the game-shops during winter. It passes also during March and April.

303. *Mergus merganser* (L.).

Mergus merganser D. & O. p. 510; La T. p. 585.

Specimens of the Goosander are often seen in the market during the winter. I have noticed this bird in late autumn, and probably some winter on the mountain streams.

304. *Colymbus septentrionalis* (L.).

Colymbus septentrionalis D. & O. p. 512.

A Diver, seen in a game-shop at the end of November, was apparently a Red-throated Diver. I have seen at various times in spring and autumn Divers fishing in the harbour or its vicinity, but I did not ascertain to what species they belonged.

305. *Podiceps minor philippensis* (Bonnat.).

Podiceps philippensis D. & O. p. 512.

The Dabchick is common on ponds during October and in spring. I have an example from the Chienan district.

306. *Podiceps nigricollis* (Brehm).*Podiceps nigricollis* D. & O. p. 513.

A Grebe, seen on the pond at Chinwangtao, on the 16th of April, 1916, appeared to be the Eared Grebe.

307. *Podiceps cristatus* (L.).*Podiceps cristatus* D. & O. p. 514.

The Great Crested Grebe appeared in March and April, and in autumn is seen as late as the middle of November. I have seen this bird fishing in the harbour during the latter month, and shot one on a creek on the 17th of November, 1910.

III.—*On some Western Australian Birds collected between the North-West Cape and Albany (950 miles apart).*

By THOMAS CARTER, M.B.O.U., M.R.A.O.U. *With Nomenclature and Remarks by GREGORY M. MATHEWS, M.B.O.U., M.R.A.O.U.*

(Text-figure 1.)

[Continued from Ibis, 1920, p. 719.]

Hirundo neoxena carteri.

Western Welcome Swallows were not commonly observed (except those at Dirk Hartog Island in May 1916, as already recorded in 'Ibis,' October 1917) until 1 April, 1919, when there were great numbers perched on the telegraph-wires near Busselton, and more of them in the town itself. A few were seen at Lake Muir on 17 March, and a good many on the telephone-wires between Augusta and Cape Leeuwin, 4 April, 1919, and also in the same position at Cape Naturaliste Lighthouse on 11 April.

Cheramœca leucosternum marngli.

Western Black-and-White Swallows are not commonly seen in the south-west, but are always fairly plentiful about Carnarvon, where colonies of them breed in the perpendicular banks of the Gascoyne River about September;